

# A CONSTRUCTION SET TOY

## FIELD OF THE INVENTION

The present invention relates to a building construction set toy to teach children the basics of architecture.

## BACKGROUND OF THE INVENTION

### Description of the Prior Art

Over the years there have been several different toy building block sets created in an attempt to amuse and educate children.

U.S. Patent No. 5,310,071 (Rivlin et al.) discloses a dual-purpose sealable food container building block element comprising an upper portion and a bottom portion, the upper portion being open, characterized in that at least one of the portions is provided with at least one connecting member, such that a plurality of the container/elements are connectable to one another by engaging the connecting members and sliding toward each other along the connecting members, for use of the container/elements as a toy after completing original use as a food container.

U.S. Patent No. 5,193,683 (Key) discloses a stackable rectangular cylinder for use as a container for food service and as a children's toy for erecting structures. The container includes a top wall and an opposed bottom wall, sidewalls and end walls, and a partition which divides the space therein. A plurality of tabs defined by opposing sides of the end walls and partition extend through and beyond paired collinear slits in the sidewalls. A first pair of tabs on each opposing edge of the end walls and partition is adapted to be engaged by elastic bands which bridge unslitted portions of the associated sidewall to releasably maintain the divided enclosure.

U.S. Patent No. 5,984,755 (Avey) relates to a combination play station and container. In its broadest context, the invention includes a receptacle with a number of flaps secured thereto. Additionally, the receptacle includes a number of smaller containers which are slidably secured thereto.

5 U.S. Patent No. 5,330,379 (Roh et al.) discloses a toy that can be stored as a sofa having a bench, a backrest and a headrest and that can be taken apart to build structures large enough for a child to crawl through or play in. The toy is a construction set with a plurality of first, second and third pieces. The first pieces form the bench, the second pieces form the backrest and the third pieces form the headrest. The pieces are solids with planar faces and are rearrangeable into a play house having sidewalls, gables and a roof wherein the first pieces form the sidewalls, the second pieces form the roof and the third pieces form the gables. Pairs of fasteners of opposite gender are arranged on the faces of the first, second and third pieces for joining the pieces into the sofa, the play house and other structures. Even numbers of pairs of fasteners of opposite polarity are provided for joining the pieces in more than one orientation.

10 15 U.S. Patent No. 4,624,383 (Moore) discloses interlocking environmental container which allows milk, juice and various food containers to be saved for use as building blocks for such items as children's toys, lawn furniture or sheds. Tongue and groove construction of one pair of opposing sides combined with top and bottom mounting means and special corner pieces allows the containers to be built into semi-rigid structures.

20 U.S. Patent No. 5,984,634 (Chang) discloses a kit for building objects from block-like construction pieces comprising a plurality of construction pieces, each having a core made of resilient flexible foam material and having a plurality of planar faces, an outer cover snugly fitting

over and completely covering the outer peripheral surface of the foam core made of a looped fabric and a plurality of double-sided hooked surface tabs for lockingly engaging with the loop fabric so that the construction pieces may be releasably assembled to one another and reinforcing strips adapted to be removably connected to tabs for bridging adjacent blocks.

## 5 SUMMARY OF THE PRESENT INVENTION

The proposed invention discloses thin cushions, having fold-away flaps on each side of the cushions. The cushions are so thin so that they fold down to a small, neat stack. These building cushions are more like “panels” or couch cushions than bricks. These panels take up less space than stand-alone foam blocks.

10 The flap design sets this invention apart from building blocks of the past. The panels teach children the fundamentals of architecture better than prior art building blocks since they are large and thin, just like actual walls of buildings. They can be used as straight walls, or, since the panels are flexible, they can be shaped or curved and attached together to replicate many structures seen in real architectural designs.

15 These flaps enable cushions to be attached in so many ways. The flap design allows for various degrees of movement between the blocks. Depending upon how the flap of one block is attached to a second block, one can create moving parts such as doors that hinge open and closed or rigid walls that stay secured to each other with no movement. By attaching the flap of one block to the flap of a second, this creates a moving hinge. By attaching the flap of each block to the face  
20 of another, it will create a secure, rigid, attachment between panels.

The pieces of the toy building construction set fit together easily and hold together firmly, yet can separate easily. The flap design takes advantage of the fact that shear force in hook fasteners

is much stronger than peel force. When a structure is built with these blocks, the flaps generate shear force between the blocks holding structures together firmly. But when they are “peeled” away from the structure, it is easy to separate. Large structures can be built, yet can fold down for easy storage. The fold-away flaps can fold down when not in use so that the loop and hook strips are not exposed. Additionally, since the panels are thin they can be folded into different shapes. This is simply not possible with “bricks” or thicker cushions. The invention and its advantages will become evident from the drawings and detailed description below.

### **BRIEF DESCRIPTION OF THE DRAWINGS**

Fig. 1 is a top perspective view of the invention;

Fig. 2 is a top view of the invention;

Fig. 3 is a side view of the invention;

Fig. 4 is a bottom view of the invention;

Fig. 5 is a top perspective of a second embodiment of the invention;

Fig. 6 is a top view of the second embodiment of the invention;

Fig. 7 is a side view of the second embodiment of the invention;

Fig. 8 is a bottom view of the second embodiment of the invention;

Fig. 9 is a top perspective view of a triangular embodiment of the invention;

Fig. 10 is a top view of the triangular embodiment of the invention;

Fig. 11 is a side view of a first side of the triangular embodiment of the invention;

Fig. 12 is a side view of a second side of the triangular embodiment of the invention;

Fig. 13 is another side view of the triangular embodiment of the invention;

Fig. 14 is a bottom view of the triangular embodiment of the invention;.

Fig. 15 is a perspective view of the semicircular embodiment of the invention;

Fig. 16 is a perspective view of the rectangular embodiment of the invention;

Fig. 17 is a perspective view of hook and loop support straps;

Fig. 18 is a perspective view of hook and loop dots; and

Fig. 19 is a cross section of the panel.

## DETAILED DESCRIPTION OF THE INVENTION

Referring to figures 1-19, the toy building construction set **1** contains a plurality of geometrically shaped thin panels **2**. Each panel **2** is preferably between about one half inch and about inch in width **3**. The panels **2** themselves are preferably triangular **4**, rectangular **5**, or square **6** in shape, although other angularly shaped pieces are possible. Some construction kits may even have semicircular **10** panels **2**. The panels **2** have a soft texture, and have an inner structure **11** preferably made from foam polyurethane. Alternatively, the inner structure **11** may be made from rubber, neoprene, foam rubber, or Styrofoam. Since children will be playing with the toy construction set **1**, it is preferred that the panels **2** are flexible and resilient, and not likely to cause serious injury during play. Since these panels could create enclosed structures such as toy boxes or larger enclosed structures, it is important to ensure the design has safeguards to keep small children from suffocation. The design of the panels with the unique flaps establish gaps between panels when attached together so air holes are automatically formed at corners and will prevent such a danger.

An outer covering **12** encasing the inner structure **11** may be made of plastic or cloth covers. The outer covering is preferably brightly colored, and could be made of felt or a felt like material, which preferably secures to hook fasteners. Each side **13** of the panels may be anywhere from about eight inches to about twenty four inches long, with a preferred range of about eight inches to about

sixteen inches in length. It is preferred that the inner structure, preferably foam polyurethane, be sewn inside the outer covering, with the outer covering having the ability to secure to hook fasteners.

Along each side **13** of the angularly shaped panels are hook strips **14**. Each geometric angular panel **2** may be attached to another panel **2** by means of these hook strips **14**. These hook strips **14** are preferably attached to a outer covering flap **15** integrally connected to the outer covering **12**. The flap is preferably merely an extension of the outer covering **12**. Having the hook strips **14** at the edges of the panels or on the flaps **15** allows for the connecting of the panels along their flaps A flap **15** of one panel may be attached to the surface **16** of a panel. This allows for even more construction possibilities. What is being referred to as hook strips are also commonly referred to as hook and loop strips or systems. It is to be understand that the hook strips here can attach to other strips or to fabric coverings. It is also to be understood that the material that can be used here is known by the trademark "Velcro."

In an alternative embodiment of the invention, the hook strip might not be one continuous strip, but may be two separate strips **20, 21** attached to the flap **15**.

The construction set may also have straps **17** having a hook strip **18** attached on side. This allows children to build "awning" type devices over entryways they have created in their forts, houses, or other structures that they have built. Additionally, the kit may also have dots **19** having loop and hook material **22** both sides of the dots **19** which allows for further arrangements of the panels. The dots **19** and the straps **17** may be preferably made of cloth or plastic. Additionally, various accessories made of hook and loop fasteners or felt can be made to attach to structures for decor or to make the structures more realistic.

In view of the above, it will be seen that the several objects of the invention are achieved and